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By: 

Karen M. Forsyth

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

INVENTOR(S) : Armin R. Völkel, et al.

TITLE : CONCENTRATION AND FOCUSING  
OF BIO-AGENTS AND MICRON-  
SIZED PARTICLES USING  
TRAVELING WAVE GRIDS

APPLICATION NO. : Unknown

FILED : Herewith

CONFIRMATION NO. : N/A

EXAMINER : N/A

ART UNIT : N/A

ATTORNEY DOCKET NO. : D/A3237  
XERZ 2 00607

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, 1.98 and MPEP § 609, applicant(s) submit(s) the following Disclosure Statement concerning art of which the applicant(s) is(are) aware. A copy of PTO-1449 is enclosed herewith.

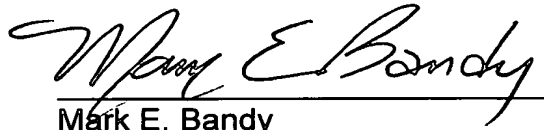
Under § 1.98(a)(3), no concise explanation of relevance is required for information that is in the English language. Accordingly, the enclosed patents require no further explanation (or no translation is available).

Consideration of the appropriate paragraph(s) indicated below is respectfully requested:

- ☒ **WITHIN THREE MONTHS OF FILING:** Under § 1.97(b)(1), this information disclosure statement is being filed within three months of the filing date of the application. Although it is believed no fee is necessary, any deficiency in fees should be charged to Deposit Account No. 24-0037.
- ☐ **BEFORE FIRST OFFICE ACTION:** Under § 1.97(b)(3), this information disclosure statement is being filed before the mailing date of a first Office Action on the merits. Although it is believed no fee is necessary, any deficiency in fees should be charged to Deposit Account No. 24-0037.
- ☐ **BEFORE FINAL ACTION/WITH FEE:** Under § 1.97(c)(2), this information shall be considered if filed before the mailing date of a final action if accompanied by a fee in the amount of \$ .00 as required by §1.17(p). The required fees should be charged to Deposit Account No. 24-0037.
- ☐ **INTERNATIONAL SEARCH REPORT:** Under § 1.97(e)(1), the undersigned certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement. Although it is believed no fee is necessary, any deficiency in fees should be charged to Deposit Account No. 24-0037.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & McKEE, LLP



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Seventh Floor  
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Dec 3, 2003  
Date

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| Substitute for form 1449A/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT(S)</b> | <b>Complete if Known</b> |                        |
|  | Application Number       | Unknown                |
|  | Filing Date              | Herewith               |
|  | First Named Inventor     | Lean et al.            |
|  | Art Unit                 | Unknown                |
| Examiner Name  | Unknown                  |                        |
| Sheet 1 of 3   | Attorney Docket No.      | D/A3237 (XERZ 2 00607) |

| U.S. PATENT DOCUMENTS |          |  |                             |   |   |
|-----------------------|----------|--|-----------------------------|---|---|
| Examiner Initials*    | Cite No. | Document No. Number-Kind Code (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|                       | AA       | US- 4,473,452                            | 09/1984                     | Cantor et al.                                   |   |
|                       | AB       | US- 4,647,179                            | 03/1987                     | Schmidlin                                       |   |
|                       | AC       | US- 4,737,251                            | 04/1988                     | Carle et al.                                    |   |
|                       | AD       | US- 6,272,296                            | 08/2001                     | Gartstein                                       |   |
|                       | AE       | US-                                      |                             |   |   |
|                       | AF       | US-                                      |                             |   |   |
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|                       | AL       | US-                                      |                             |   |   |

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|                          |          | Country Code-Number Kind Code (if known) |                             |   |   |                          |
|                          | AM       | WO 99/36357                              | 07/1999                     | PCT   |   | <input type="checkbox"/> |
|                          | AN       | WO 00/73780                              | 12/2000                     | Leisa-Mon (Israel), Ltd.                        |   | <input type="checkbox"/> |
|                          | AO       |  |                             |   |   | <input type="checkbox"/> |
|                          | AP       |  |                             |   |   | <input type="checkbox"/> |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS |          |  |  |  | T                        |
|---|----------|--|--|--|--------------------------|
| Examiner Initials*                                | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published |  |  |                          |
|   | AQ       | British Berkefeld, <i>James Filter</i> , <a href="http://www.jamesfilter.com/">http://www.jamesfilter.com/</a> , June 23, 2003   |  |  | <input type="checkbox"/> |
|   | AR       | Filtros Ltd., <i>Filtros</i> , <a href="http://www.filtrosLtd.com/">http://www.filtrosLtd.com/</a> , June 23, 2003   |  |  | <input type="checkbox"/> |
|   | AS       | REI, <a href="http://www.rei.com/">http://www.rei.com/</a> , June 23, 2003   |  |  | <input type="checkbox"/> |
|   | AT       |  |  |  | <input type="checkbox"/> |
|   | AU       |  |  |  | <input type="checkbox"/> |
|   | AV       |  |  |  | <input type="checkbox"/> |

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|  | First Named Inventor     | Lean et al.            |
|  | Art Unit                 | Unknown                |
|  | Examiner Name            | Unknown                |
| Sheet 2 of 3   | Attorney Docket No.      | D/A3237 (XERZ 2 00607) |

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|                       | BA       | US- 5,208,458                            | 05/1993                     | Busch et al.                                    |   |
|                       | BB       | US- 5,534,121                            | 07/1996                     | Merrick et al.                                  |   |
|                       | BC       | US- 5,653,859                            | 08/1997                     | Parton et al.                                   |   |
|                       | BD       | US- 5,837,116                            | 11/1998                     | Harrington et al.                               |   |
|                       | BE       | US- 6,358,752                            | 03/2002                     | Durst et al.                                    |   |
|                       | BF       | US- 6,398,933                            | 06/2002                     | Scott   |   |
|                       | BG       |  |                             |   |   |
|                       | BH       | US2002/0144895                           | 10/2002                     | Stern et al.                                    |   |
|                       | BI       |  |                             |   |   |
|                       | BJ       |  |                             |   |   |
|                       | BK       | US-                                      |                             |   |   |
|                       | BL       | US-                                      |                             |   |   |

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|                          |          | Country Code-Number Kind Code (if known) |                             |   |   |                          |
|                          | BM       |  |                             |   |   | <input type="checkbox"/> |
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|                          | BO       |  |                             |   |   | <input type="checkbox"/> |
|                          | BP       |  |                             |   |   | <input type="checkbox"/> |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS |          |  |  |                          |
|---|----------|--|--|--------------------------|
| Examiner Initials*                                | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published |  | T                        |
|   | BQ       | SCOTT RUDGE et al., Electroseparations (Electrophoresis), <i>Encyclopedia of Chemical Technology</i> , 4th Edition, Vol. 9, pp 356-376   |  | <input type="checkbox"/> |
|   | BR       | O'HARA et al., <i>Ratcheting Electrophoresis Microchip (REM) for Programmable Transport and Separation of Macromolecules</i> , MEMS, November 11-16, 2001, pp. 619-628, Vol. 3, ASME, USA  |  | <input type="checkbox"/> |
|   | BS       |  |  | <input type="checkbox"/> |
|   | BT       |  |  | <input type="checkbox"/> |
|   | BU       |  |  | <input type="checkbox"/> |
|   | BV       |  |  | <input type="checkbox"/> |

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| Examiner Signature |  | Date Considered |  |
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|  | Application Number       | Unknown                |
|  | Filing Date              | Herewith               |
|  | First Named Inventor     | Lean et al.            |
|  | Art Unit                 | Unknown                |
|  | Examiner Name            | Unknown                |
| Sheet 3 of 3   | Attorney Docket No.      | D/A3237 (XERZ 2 00607) |

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|                       | CA       | US-                                      |                             |   |   |
|                       | CB       | US-                                      |                             |   |   |
|                       | CC       | US-                                      |                             |   |   |
|                       | CD       | US-                                      |                             |   |   |
|                       | CE       | US-                                      |                             |   |   |
|                       | CF       | US-                                      |                             |   |   |

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|                          | CG       |  |                             |   |   | <input type="checkbox"/> |
|                          | CH       |  |                             |   |   | <input type="checkbox"/> |
|                          | CI       |  |                             |   |   | <input type="checkbox"/> |
|                          | CJ       |  |                             |   |   | <input type="checkbox"/> |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS |          |  |                          |
|---|----------|--|--------------------------|
| Examiner Initials*                                | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published   | T                        |
|   | CK       | DUNPHY et al., <i>Rapid Separation and Manipulation of DNA by a Ratcheting Electrophoresis Microchip (REM)</i> , November 17-22, 2002, pp. 419-423, ASME, USA  | <input type="checkbox"/> |
|   | CL       | Proteome Systems, Products, Website, <i>Electrophoresis</i> , 2002 at <a href="http://www.proteomesystems.com/product/product.asp?ProductID=43">http://www.proteomesystems.com/product/product.asp?ProductID=43</a> and <a href="http://www.proteomesystems.com/product/profile.asp?DocumentID=662">http://www.proteomesystems.com/product/profile.asp?DocumentID=662</a>  | <input type="checkbox"/> |
|   | CM       | ISC Buyers' Guide, Website, <i>Electrophoresis, 2D Gel</i> , 2002, at <a href="http://www.iscpubs.com/bg/us/prod/prod1991.html">http://www.iscpubs.com/bg/us/prod/prod1991.html</a>  | <input type="checkbox"/> |
|   | CN       | EMBL's Proteomics Visitor Facility, Website, 2D Gel Equipment, <i>Protean 2D Cells from Bio-Rad</i> , 2001, at <a href="http://mann.embl-heidelberg.de/Visitor_Facility/PageLinks/Instrumentation/GelchamberMain.html">http://mann.embl-heidelberg.de/Visitor_Facility/PageLinks/Instrumentation/GelchamberMain.html</a> , and <i>Protean IEF Cell from Bio-Rad</i> , at <a href="http://www.mann.embl-heidelberg.de/Visitor_Facility/PageLinks/Instrumentation/ECellMain.html">http://www.mann.embl-heidelberg.de/Visitor_Facility/PageLinks/Instrumentation/ECellMain.html</a> | <input type="checkbox"/> |
|   | CO       | JAMES R. JEFFERIES,, <i>2D Gel Electrophoresis for Proteomics Tutorial</i> , pp. 1-24 at <a href="http://www.aber.ac.uk/parasitology/Proteome/Tut_2D.html">http://www.aber.ac.uk/parasitology/Proteome/Tut_2D.html</a> (last tutorial update: 07th/01/03)  | <input type="checkbox"/> |
|   | CP       | The Scripps Research Institute, Website, <i>Proteomics Module</i> , 2003, pp. 1-3 at <a href="http://core-eye.scripps.edu/proteomics.htm">http://core-eye.scripps.edu/proteomics.htm</a>   | <input type="checkbox"/> |
|   | CQ       | 2D Protocols, Website, <i>Analysis of Proteins Using Small Format 2D Gel Electrophoresis</i> , 2000, pp. 1-5, at <a href="http://www.abdn.ac.uk/~mmb023/protocol.htm">http://www.abdn.ac.uk/~mmb023/protocol.htm</a>   | <input type="checkbox"/> |
|   | CR       | Biowire.com, Website, <i>The Nucleus</i> , 2000-2002, pp. 1-4, at <a href="http://www.biowire.com/nucleus/nucleus_1_3.jsp">http://www.biowire.com/nucleus/nucleus_1_3.jsp</a>  | <input type="checkbox"/> |
|   | CS       | Bio-Rad Laboratories, Website, <i>Electrophoresis</i> , 2003, at <a href="http://www.bio-rad.com/B2B/BioRad/product/br_category.jsp">http://www.bio-rad.com/B2B/BioRad/product/br_category.jsp</a>   | <input type="checkbox"/> |

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| Examiner Signature |  | Date Considered |  |
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